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CHAPTER 1

The First 50 days of COVID-19: A Detailed Chronological Timeline and Extensive Review of Literature Documenting the Pandemic

INTRODUCTION

The COVID-19 pandemic took the world by surprise and unfolded extremely rapidly. It began relatively slower, and only a little is documented on its actual first case, with claims as from November, while others links it to on December 1. Besides not knowing when it began, there was also very little known on the many issues about the virus, including its mode of transmission, its incubation time, and the medication the vaccination, among many other elements. Even to date, at the time of writing, there still remain some gray areas about the virus including its origin and whether it could have permanent impacts on patients, and whether it is possible for patients to develop immunity, among many other areas that are still being looked into. Following these uncertainties, there had been numerous health policies with a number of those being rendered ineffective as more knowledge about the virus is revealed. For instance, at the beginning, the World Health Organization (WHO) advised that masks should only be worn by health professionals or patients while in hospital, but later on, after it established that there were possibilities of human-to-human transmission, it became apparent that everyone need to wear a mask while in public to prevent transmitting or contracting the virus.

However, while the impacts of the virus in the first 50 days were still relatively smaller, and the spread as per the available information was still slower, there were already 44 confirmed cases reported in China, Wuhan region (41 cases), Thailand (2 cases), and Japan (1 case). From the 41 reported cases in Wuhan, 2 people had succumbed to the unknown disease, whereas 12 are

said to have recovered and discharged. Interestingly, on this pandemic, though it took health official approximately 38 days to identify that they were dealing with a new kind of coronavirus, an artificial intelligence (AI)–powered algorithm developed by BlueDot, a Canadian startup tech company, provided early warnings that the world might be experiencing a new virus outbreak (Bowles, 2020). The warning came 7 days earlier before the Chinese scientist identified the virus (Huang et al., 2020), and 9 days before they notified the WHO, which then made the official announcement to the world (WHO, 2020e). This early warning supports that computer predictions could be relied upon in predicting future pandemics before they arise, hence saving allowing for early preparations the challenges of future pandemic.

In these first 50 days of the COVID-19 pandemic, despite the virus having spread to two more countries outside China, most of the global community were not particularly worried, as the perception was that only those who had come into contact with the Wuhan seafood market had the highest probability of being infected. Therefore, even with the help of technologies like that of BlueDot, the countries that were seen to be at risk of the 2019-nCoV outbreak (the temporary name previously given to the virus) were those neighboring China and those directly linked to Wuhan via airlines. For this reason, some of the countries that were flagged to be at risk included Taiwan, Australia, United Arab Emirates, Hong Kong, Japan, and Thailand. This chapter documents the outbreak over the first 50 days through the sections in the following.

DAY 1—DECEMBER 1, 2019

The earliest date of symptoms for COVID-19, according to a study performed by [Huang et al. \(2020\)](#) and published in the *Lancet* journal, was December 1, 2019. However, there are other sources ([Bryner, 2020](#); [Davidson, 2020](#)) claiming that individuals with similar symptoms may have presented themselves to hospital as early as November. According to the report, by *South China Morning Post* ([Ma, 2020](#)), the first person who presented similar cases was a male patient of 55-year old from the province of Hubei. However, Chinese doctors only came to realize that they were dealing with a new and serious virus late December, when similar symptoms continued to increase every day, and mostly originating from Wuhan. According to the article in *Lancet*, the first patient, and whom they insist may be the first case, was reported on December 1, 2019, and whom did not have direct link with the Wuhan Seafood Market that has been associated with the origin of the virus. This finding interestingly matches with [Ma \(2020\)](#) who also argues that the November 2019 case was not from Wuhan. The story as to the origin of the virus has fueled much political and social divides and is expected to evolve as further efforts are poured into understanding this crisis.

DAY 8—DECEMBER 8, 2019

The number of new patients voluntarily presenting themselves to hospital continued to increase ([Bryner, 2020](#)). Hospitals report new one to five cases with similar symptoms on average each day. However, this being a new virus, some sources quoted December 8 as the first day where the first patient in the city of Wuhan sought medical help for pneumonia-like symptoms. At this time, the European Centre for Disease Prevention and Control ([ECDC, 2020c](#)) contended that many dimensions, which were known today, like the need for social distancing, human-to-human infections, lack of vaccine or cure, and many such issues, were unknown, and the precautionary measures taken then were routinely delivered. Also, during these early stages of the onset of the virus, there was no clear evidence of how many people were affected. For this reason, information from Chinese authorities ([Wuhan City Health Committee, 2020](#)) and those of the WHO ([WHO, 2020a](#)) stated that the December 8, 2019, marked the onset of the first 41 cases that were tested and which were later confirmed positive with COVID-19, then known as “2019-nCoV.”

DAY 29—DECEMBER 29, 2019

As hospitals continued to receive more patients with unknown “pneumonia-like symptoms,” fear of the outbreak is already spreading, especially among the

social media (WeChat) use within China, more so Wuhan ([Secon, 2020](#)). [Li et al. \(2020\)](#) explained that during the period beginning December 1, 2019, the recurrence of the words “SARS” and “shortness of breath” in the social media started to increase, and by December 29, it had peaked. Meanwhile, in the hospitals, doctors were observed to concede that there might be a new virus of unknown etymology in Wuhan, presenting symptoms of acute respiratory syndrome. The reporting is affirmed by availability of the first four cases officially confirmed. All the four cases were linked to the Huanan (Southern China) Seafood Wholesale Market, which has been highly linked to have been the source of the virus. While only four cases had been pointed, by this date, [Bryner \(2020\)](#) reports that already, over 180 people in Wuhan had been infected, but since doctors had not earmarked them as suspected cases noting that there were no suspicion of this “unknown” disease. The 180 cases were only identified after doctors cross-verified records. The suspicion after reporting the four cases was that they were not suffering from SARS (severe acute respiratory syndrome), which was still in surveillance since it broke in 2003. With the possibility of an unknown outbreak, at this time, the concern was to establish the transmissibility, severity, and other issues that may be related to this new virus ([Adhikari et al., 2020](#)).

DAY 31—DECEMBER 31, 2019

The situation unfolded rapidly on this day. First, the Chinese officially reported to the WHO of the possibility of a new virus with symptoms of pneumonia, but of unknown etymology. The information to WHO officials based in China was that this disease had been detected in Wuhan, from the Hubei Province. By the time of this reporting, the ECDC supported that Wuhan Municipal Health Commission was already handling 27 pneumonia cases with 7 of those in critical conditions ([ECDC, 2020b](#)). While reporting, the officials did not have the information about how the disease was transmitted, and in some sources ([WHO, 2020e](#)), they have ruled out human-to-human infection. While that is the case, all patients with the said symptoms who had been received so far in hospitals in Wuhan were placed under quarantine, as work to establish and identify the type of the virus and its origin began ([Safi, 2020](#)).

While this marked the first official day that the COVID-19 pandemic gained and attracted attention from the international body (WHO), and the Centers for Disease Control and Prevention (CDC), as noted in the previous dates, different cases had been reported. With ambiguity on this, there are contradictory figures from different sources denoting cases with varying dates. But the following

days succeeding the event, reporting has been taken over by international organization and by the WHO, leading to more coordinated and reliable figures.

DAY 32—JANUARY 1, 2020

On January 1, 2020, the Wuhan's Huanan Seafood Wholesale Market was indefinitely closed following its associated link with the virus outbreak (Juan, 2020). The role and link of the market in this story was not only made by the Wuhan Municipal officials but also by the USCDC (Patel and Jernigan, 2020). While workers in the market, under the watchful eyes of the police, proceeded to close their businesses, health officials were collecting samples from surfaces in the market and sealing them in plastic bags to be analyzed further. The closure included banning of live animals from this market and any other wet markets (WHO, 2020e). Sale of wild animals to restaurants, via online markets or in any other such market, was also banned. Besides preventing further spread of the virus, the other intention of the closure of the market was to allow for environmental sanitation and disinfection of the same. There were also some levels of public awareness performed, especially to farmers who reared animals, where emphasis on sanitation was being stressed upon (WHO, 2020c).

Outside the market, Chinese social media were amassed with different messages pointing to the fact that Wuhan, an industrial city of over 11 million people, was experiencing an outbreak of an unknown disease. According to Safi (2020), the fears being spread in those social media platforms were catalyzed by leakage of some medical documents from a hospital in Wuhan showing that some people with the virus had been reportedly transferred there. Since uncertainties revolved around the virus, panic was building up around the perception that SARS backer-emerged. Following the spread of this fear, eight individuals accused of spreading rumors were arrested and imprisoned by the Public Security Bureau (Tardáguila and Chen, 2020).

Outside China, its neighbors were starting to take caution. Taiwan was reported to immediately take the issue seriously and demanded the screening for any signs of pneumonia-like or flu symptoms for all individuals coming from China.

Until this date, the number of those reported to have shown the signs of the disease in question still remains unknown, but consensus builds around the number of cases to be 41 (Zhao et al., 2020).

DAY 38—JANUARY 7, 2020

After rigorous probes, tests, analysis, and other medical practices, the Chinese authorities made a global announcement (Huang et al., 2020) that they have

successfully identified the virus as a novel coronavirus, similar to the one associated with SARS and the middle east respiratory syndrome (MARS). Prior to this ground breaking discovery, the officials had 2 days earlier, on January 5, ruled out that the virus they were dealing with was either SARS or MARS, hence concluding that it was indeed a new type of virus. Upon its successful identification, it was tentatively named as "2019-nCoV." The identification came after Chinese scientists successfully isolated the virus from one of the patients quarantined in a hospital in Wuhan (Huang et al., 2020). According to an article by Singhal (2020), the identified virus had greater than 95% (>95%) homology with the bat coronavirus and was also greater than 70% similarity with the virus responsible for causing SARS (SARS-CoV).

As the identification occurred, it was also reported that the samples previously collected from the Wuhan market tested positive, thus confirming the fears that the virus could have originated from there.

Even after identification of the virus, it was still not clear of how it could be transmitted. But the executive director of the WHO's Health Emergencies Programme, Dr. Mike Ryan, argued that the virus being a respiratory pathogen could possibly be transmitted from human to human (WHO, 2020e). At this stage, it is reported that approximately 44 people had contracted the disease and were still under quarantine as reported earlier.

Beyond China, as report by the WHO (WHO, 2020a), neighboring countries were stepping up their health precautions. For instance, Japan began to institute comprehensive screening of all travelers coming from Wuhan, and anyone with signs of fever or flu were placed under quarantine. In the United States, the country's CDC created a 2019-nCoV incident management structure that would help the country as it prepares for upcoming cases.

DAY 42—JANUARY 11, 2020

On January 9, 2020, Chinese officials reported to the WHO that they have finally identified the virus, and subsequently, the WHO made the official announcement (WHO, 2020e) of the same to the world. On January 11, the Chinese health officials share unfortunate news that a 61-year-old man who had been admitted in one of the hospitals in Wuhan had died. From the report (Ravelo and Jerving, 2020), the man had other underlying health conditions such as chronic liver disease and abdominal tumors, but the cause of his death was attributed to 2019-nCoV. By the time of his death, he was reported to have suffered from issues such as respiratory failure and severe pneumonia, septic shock, and multiple organ failure. He was also observed

to have suffered from severe acid-based metabolism disorder and cirrhosis. His hospital treatment included antiinfection, ventilator-assisted breathing, life support, and other treatments, but with no positive results. His death was marked as the first known death from this new virus.

In regard to new cases, health officials did not record any other case except the 44 cases that had been received up to January 3. They also expressed that according to an epidemiological survey (WHO, 2020e), there was no clear evidence that the disease could be transmitted from human to human. However, they affirmed that all the cases in hospital were of people who had been exposed to the Wuhan Seafood market.

On this day, the first 2019-nCoV virus genome sequence was deposited in the GENBNK (the NIH database that where all public genetic sequences are stored) and shared with virologist.org (an online hub for pre-publication of data, where the public can freely access for public health-related activities and research) and also uploaded to the platform “Global Initiative on Sharing All Influenza Data” (GISAID) (ECDC, 2020b), through a collaboration of a number of organizations including the Shanghai Public Health Clinic Centre, the Central Hospital of Wuhan, Huazhong University of Science and Technology, and Wuhan Center for Disease Control and Prevention among others. All this happened before the information on discovery of the genome sequence was officially shared with the WHO. However, the details were to be shared with the WHO the following day together with other viral sequences that were to be shared with GISAID (Holmes, 2020). In parallel, Chinese Health officials were considering to temporarily close down the Chinese laboratory that was the first to share the coronavirus genome with the world. The laboratory was closed on the following day (January 12) (Pinghui, 2020).

DAY 43—JANUARY 12, 2020

The WHO was briefed of the availability of the first viral genome sequence of coronavirus, and other five other genomes, which were subsequently deposited in the GISAID platform (Holmes, 2020). A lab in China, which was first to share genome, publicly closed down “for rectification” as ordered in the previous day, but still there was no clarification of what this “rectification” was supposed to mean. In addition, on this closure, as reported by Pinghui (2020), the laboratory was not given notice as to why they were asked to be closed down, even after relentless permission applications to reopen without any success. But it is assumed the “rectification” here is all about the lab releasing their

genome sequence publicly before the officials could publish theirs. Despite this bad blood between the laboratory and the officials from the Shanghai Public Health Clinic Centre and other agencies involved in establishing and depositing the viral genome sequencing, the information is said to be critical in assisting scientists from different parts of the globe in the development of the testing and diagnostic kits and also in search for vaccine and cure for the disease.

Another major happening of the day is the publishing of interim guidelines by the WHO on issues pertaining to travel advice, testing in laboratories and medical investigations. These targeted to help countries across the globe to prepare for any eventuality that may arise from the nCoV spread. The guidelines also targeted to urge the travellers, especially from or in Wuhan to practice extra health caution. Also, the guidelines insisted on the need for countries not to impose any travel restrictions on the international travelers (Schnirring, 2020).

DAY 44—JANUARY 13, 2020

While no new cases were reported in Wuhan, or in any other parts of China, beyond its border, Thailand confirmed their first case, which was also thought to be the first international 2019-nCoV one. This first case was a woman, noted to have frequented local fresh market in Wuhan, but did not visit the condemned Huanan South China Seafood Market. The 61-year-old Chinese citizen was intercepted at the Bangkok airport by the thermal surveillance scanners that detected her high temperature (fever). The identification of this case occurred on January 8, where she was hospitalized immediately and samples were taken from her, but the healthy officials delayed reporting the case until January 13. When the samples were subjected to a number of medical tests such as the reverse transcriptase polymerase chain reaction test and subjected to genetic sequencing, they came back positive for the 2019-nCoV. During the travel, she and five family members were in a tour group of 16 members who traveled directly from Wuhan to Bangkok. Before the tests were done, the woman reported to have had experienced fever, chills, sore throat, and headaches. Of all those in her company, no one had shown any similar signs (Schnirring, 2020); thus, she is the only one who was isolated.

With the patient having insisted she did not visit the suspected seafood market in Wuhan, the hypothesis of the origin of the virus was put into disarray, and the WHO insisted that the scope for the investigation of the source of the virus needs to be extended beyond the seafood market to other local markets that are

observed to have also been involved in selling of live animals, including bats, which have been linked with the origin of the virus. Another issue that came up from the history of this patient is the incubation period of the virus. According to her, her last visit to the markets was on January 5. Therefore, since then, to the time she was detected to have symptoms, a number of days had passed. This also led to further question of the incubation period of the 2019-nCoV.

Following the identification of the first case outside China, a research group (BlueDot developed an AI-based system to track the virus spread as from December 30, 2019 (Bowles, 2020)) from Toronto embarked to map out top destinations that would be at high risk following the airline travel history from Wuhan. From the research, those flagged as top destinations included Thailand, Hong Kong, Japan, Taiwan, Australia, and the United Arab Emirates.

Following the confirmation in Thailand, health officials from the country declared that they were tracing and monitoring over 182 contacts that may have interacted with the woman patient (WHO, 2020b).

DAY 47—JANUARY 16, 2020

From January 13, a number of happenings have been reported. On January 14, for instance, following the first confirmation outside China, Wuhan embarked on a concerted effort of screening all passengers traveling out of the city either via the air, the rail, or buses. The screening was performed at the points of departure (airports, railway stations, ferry terminals, and bus stations) through the help of 35 infrared thermometers that were installed in those key points (WHO, 2020d). On this day still, the WHO, after consultation with Chinese officials, reported that there were no clear evidences to conclude that the 2019-nCoV virus could be transmitted from person to person, but the option could not be excluded (WHO, 2020e). But, while that was going on, of the 41 quarantined cases, 2 of the cases were confirmed to be a married couple, thus watering down the argument that the virus could not involve human-to-human transmission.

On January 15, a major event happened in Wuhan, China, where a 69-year-old man died from the virus (Siu et al., 2020). Like the first reported death, this man also had some other underlying health conditions such as myocarditis, abnormal renal function, and multiple organ failure (Ravelo and Jerving, 2020). Outside China, Japan confirmed their first case, a man in his 30s who had lived in Wuhan and traveled back to Japan on January 6. While in Wuhan, he reported to have developed a high fever (January 3) (Sim, 2020), but it

was only days later, in Japan that he was confirmed to be coronavirus positive, as reported by the Japanese Ministry of Health, Labor and Welfare (Gan, 2020). The man, who had not visited the Huanan seafood market, was taken in hospital in Japan as from January 10 where he stayed up to January 15, where, though he tested positive, he recovered and was dismissed from hospital.

On January 16, Vietnam isolated two Chinese travelers coming from the Chinese city, and though they had not been found positive, this was done as a preventive measure following the news of the spread of the virus outside China.

In Germany, a team of researchers from German Centre for Infection Research (DZIF), Berlin, are noted to have successfully developed a prototype of the first diagnostic test that could help in identifying the coronavirus. The laboratory assay was approved and published by the WHO as a guideline for diagnostic detection, and it became the first test kit in the world (Drosten, 2020).

DAY 48—JANUARY 17, 2020

A second case was reported in Thailand. This time, it was a 74-year-old woman who had traveled from Wuhan and arrived at Bangkok Suvarnabhumi Airport on January 13. Upon arrival and screening, she was found to have fever and was isolated into a local medical institute where the coronavirus testing was performed and come back positive (The Government of the Hong Kong Special Administrative Region, 2020). The confirmation of the case was made by the Ministry of Public health of Thailand. Following this case, Thailand was put on a high alert, since in the following weeks was the beginning of the Lunar New Year Holidays, and during such times, millions of Chinese travelers usually travel to the country. The alert involved intensifying surveillance in all the country's (four) airports, especially in respect to flights coming from Wuhan. But amid such alerts, the country's top officials insisted that there was no outbreak of the virus (Promchertchoo, 2020).

In the United States, the USCDC was noted to have dispatched a team of a 100 people to three of its airports in San Francisco (SFO), New York (JFK), and Los Angeles (LAX) to complement the existing staff in conducting screening for all individuals entering the country from Wuhan, China. The medical team would cooperate with officials from Homeland Security and Customs and Border Protection (CBP) to ensure total compliance with the screening requirements (USCDC, 2020).

In regard to new infections, the Medical Research Council (MRC) Centre for Global Infectious Disease Analysis (MRC GIDA) at Imperial College argued that it had made some estimations, which showed that cases in Wuhan would likely have increased to almost 1700 (Imai et al., 2020). They argued that such numbers could be ascertained if pneumonia or related cases within Wuhan and other connected cities within China could be investigated. The calculations were based on flight and population data, following the fact that cases in Thailand and Japan had already been detected, and there were possibilities that there could be new cases not yet reported in other destinations that had originated from Wuhan since the period that the coronavirus was reported.

However, despite availability of those estimates, a summary report capturing happenings up to January 17 was published by ECDC (2020a) highlighting that the number of confirmed cases after successful laboratory testing still remained at 44 (41 in Wuhan, China, 2 in Thailand, and 1 in Japan). Of these, 2 had died, 12 had been discharged from hospital, and 5 were reported as severe cases. After the confirmation of the 44 cases, health officials to this date had managed to trace, identify, and monitor 763 close contacts. Of those, 644 were given a clean bill of health, whereas 119 were still under close medical observation, although none of them had tested positive to the virus (Wuhan Municipal Health Commission, 2020).

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